

## *Curriculum Vitae*

Dr. Paul R. Nelson, III

### Education

Georgia Institute of Technology, Ph.D., 1987, Analytical Chemistry, Thesis title: "Applications of Analytical Collisional Mass Spectrometry"

Hampden-Sydney College, B.S., 1983, Chemistry (ACS Certified)

### Employment

Dec. 1987 - Present: R.J. Reynolds Tobacco Company, R&D Chemist

Responsible for conceiving, planning, executing and interpreting research on the chemical composition of tobacco and tobacco smoke and the chemistry of environmental tobacco smoke (ETS). Major areas of research have included the decay and fate of ETS constituents, factors which influence non-smokers perceptions of environmental tobacco smoke, and development of methods for studying the cytotoxicity and genotoxicity of ETS.

Summers 1979-1983: Chomerics Inc., Associate Scientist, Laboratory Technician

Responsible for the development of processes for the production of electrically conductive metallic and non-metallic powders, analysis of plated powders using a scanning electron microscope equipped with an energy dispersive X-ray analysis probe, and the compounding and testing of materials with unique electrical and thermal properties.

### Publications

P.R. Nelson, J.R. Appling, E. Kent Barefield, and T.F. Moran, "Doubly Charged Ion Mass Spectrometry of Metallocenes," *Inorg. Chem.*, **25**, 1510 (1986)

P.R. Nelson, Yaodong Xu, and T.F. Moran, "Charge Transfer Reactions of Gaseous  $\text{Cl}^+$  Ions with Organic Molecules: Relationship of Total Cross Sections to Reaction Energetics and Franck-Condon Factors," *Chem. Phys. Lett.*, **130**, 307 (1986)

P.R. Nelson, C.A. Fung Kee Fung, J.B. Sedgwick, G.C. Shields, L.E. Abbey, and T.F. Moran, "Doubly Charged Ion Mass Spectra of Alkyl Substituted Furans and Pyrroles," *Org. Mass Spectrom.*, **22**, 389 (1986)

G.C. Shields, P.A. Steiner IV, P.R. Nelson, M.C. Trauner, and T.F. Moran, "Charge Transfer Reactions of Organic Ions Containing Oxygen: Correlation Between Reaction Energetics and Cross Sections," *Org. Mass Spectrom.*, **22**, 64 (1987)

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- J.B. Sedgwick, P.R. Nelson, P.A. Steiner IV, and T.F. Moran, "Charge Neutralization of Ions from Benzene," *Org. Mass Spectrom.*, **23**, 256 (1988)
- J.B. Sedgwick, P.R. Nelson, C.A. Jordan, L.E. Abbey, Y. XU, and T.F. Moran, "Resonant and Near-resonant Charge Transfer Reactions of Gaseous Organic Ions," *Chem. Phys. Lett.*, **146**, 113 (1988).
- P.R. Nelson, L.E. Abbey, and T.F. Moran, "The Effects of Emitter Heating Current on Field Ionization Mass Spectra of Nitrogen Containing Organic Molecules," *Org. Mass Spectrom.*, **24**, 22 (1989).
- J.D. deBethizy, L.E. Bates, R.A. Davis, D.L. Heavner, P.R. Nelson, J.C. Walker, and J.H. Robinson, "Nicotine Adsorption in Humans Following Exposure to Environmental Tobacco Smoke Generated from Different Types of Cigarettes," *Present and Future of Indoor Air Quality Conference, Excerpta Medica, Int. Con. Ser.*, **860**, Elsevier, New York, 269 (1989).
- P.R. Nelson, D.L. Heavner, and B.B. Collie, "Characterization of the Environmental Tobacco Smoke Generated by Different Cigarettes," *Present and Future of Indoor Air Quality, Excerpta Medica, Int. Cong. Ser.*, **860**, Elsevier, New York, 277 (1989).
- P.R. Nelson, M.W. Ogden, K.C. Maiolo, D.L. Heavner, and B.B. Collie, "Predictive Value of Nicotine as an Environmental Tobacco Smoke Marker," *Proceedings of the Fifth International Conference on Indoor Air Quality and Climate*, **2**, 367 (1990)
- P.R. Nelson, D.L. Heavner, G.B. Oldaker III, "Problems With The Use of Nicotine as a Predictive Environmental Tobacco Smoke Marker," *Proceedings of the 1990 EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants*, To Appear 1990.
- D.L.C. Kay, D.L. Heavner, P.R. Nelson, R.A. Jennings, D.W. Eaker, J.H. Robinson, P.O. DeLuca, and C.H. Risner, "Effects of Relative Humidity on Nonsmoker Response to Environmental Tobacco Smoke," *Proceedings of the Fifth International Conference on Indoor Air Quality and Climate*, **1**, 275 (1990).

#### **Presentations**

- P.R. Nelson, D.L. Heavner, and B.B. Collie, "Characterization of the Environmental Tobacco Smoke Generated by Different Cigarettes," *Present and Future of Indoor Air Quality Conference, Brussels, Belgium*, 1989.
- P.R. Nelson, "Internal Standard System for Use with APCI Mass Spectrometers," *37<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Miami Beach, FL*, 1989.

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P.R. Nelson, D.L. Heavner, and G.B. Oldaker III, "Problems with the Use of Nicotine as a Predictive Environmental Tobacco Smoke Marker," 1990 EPA/ A&WMA International Symposium on Toxic and Related Air Pollutants, Raleigh, NC, 1990.

P.R. Nelson and M.W. Ogden, "Measurement of Ethenylpyridine in Environmental Tobacco Smoke," 38<sup>th</sup> Annual Conference on Mass Spectrometry and Allied Topics, Tuscon, AZ, 1990.

P.R. Nelson, M.W. Ogden, K.C. Maiolo, D.L. Heavner, and B.B. Collie, "Predictive Value of Nicotine as an Environmental Tobacco Smoke Marker," The 5<sup>th</sup> International Conference on Indoor Air Quality and Climate: INDOOR AIR '90, Toronto, ON, 1990.

#### **Presentations coauthor**

J.D. deBethizy, L.E. Bates, R.A. Davis, D.L. Heavner, P.R. Nelson, J.C. Walker, and J.H. Robinson, "Nicotine Adsorption in Humans Following Exposure to Environmental Tobacco Smoke Generated from Different Types of Cigarettes," Present and Future of Indoor Air Quality Conference, Brussels, Belgium, 1989.

D.L.C. Kay, D.L. Heavner, P.R. Nelson, R.A. Jennings, D.W. Eaker, J.H. Robinson, P.O. DeLuca, and C.H. Risner, "Effects of Relative Humidity on Nonsmoker Response to Environmental Tobacco Smoke," The 5<sup>th</sup> International Conference on Indoor Air Quality and Climate: INDOOR AIR '90, Toronto, ON, 1990.

D.L.C. Kay, D.L. Heavner, and P.R. Nelson, "The Effect of Environmental Tobacco Smoke (ETS) on Selected Eye Parameters," To be presented at Tobacco Chemists Research Conference, Winston-Salem, NC, 1990.

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